



FOR IMMEDIATE RELEASE
April 9, 2024

Contact: Dan Juan
973-914-5519

Taking In The Totality

Paterson P-TECH educator leads Citizen CATE 2024 team

Captions to photos at end

On a mostly sunny day at the Adirondack Sky Center and Observatory in Tupper Lake, N.Y., Dr. Carlos Miranda waited with his team to do their part in a nation spanning science project. On April 8th, Dr. Miranda, the Planetarium Program Manager at Paterson P-Tech Planetarium, was part of a team that operated the Site 30 telescope set up that is part of the Citizen Continental-America Telescopic Eclipse (CATE) 2024 project.

The path of totality for the total solar eclipse traversed the United States, spanning from Texas through the Midwest, and reaching up to Maine. Funded by the National Science Foundation (NSF) and NASA, the CATE 2024 project deployed around 40 identical telescope setups along this path of totality. These telescopes were operated by teams of community scientists. The primary objective was to capture and analyze the eclipse's phenomena in detail, contributing valuable scientific insights and data. Each CATE team received a comprehensive kit containing a telescope, camera, laptop, various observing equipment, and educational materials. Upon completion of the project, each team will get to keep the equipment for use in their communities.

Dr. Miranda and his team were notified in December 2023 of their selection to participate in the project. The team consisted of his childhood friend, Micheal Corter, and Director of the Adirondack Sky Center and Observatory Seth McGowan. Training started in January at the Strasenburgh Planetarium in Rochester, N.Y. with an introduction to the project and the equipment. Subsequent practice sessions were done on their own, requiring that their data be submitted after each practice. One session was held at P-Tech, complete with data collection with students observing the practice.

Dr. Miranda was motivated to take part in the project for two reasons, those being the experience itself, and the possibility of acquiring instruments for Paterson's students. When teaching students about eclipses, Dr. Miranda feels that his involvement in this project will legitimize his knowledge and insights. Through his continued participation in the project, he will receive updates on the science being conducted, which he will then apply to presentations or teachings about the sun. As for the instruments, they will remain with Paterson P-Tech's planetarium program for future outreach events and heliophysics projects for students throughout the district. One such outreach program in the plans will be at the Paterson Great Falls National Historical Park on May 9th during their annual park clean-up day.

Dr. Miranda described his experience, "Being in totality was an awe-inspiring experience, that truly needs to be lived. In the final seconds before totality, before the moon fully covered the solar disc, the sun went dark. Suddenly a pop of light all around the moon - totality. We recorded a 9-degree temperature drop. Jupiter and Venus also made an appearance as the sky darkened enough for planets to become visible. Then after over three and half minutes, the moon moved along its course and the sky began to brighten slowly for the next hour or so. Just like that totality was over, but this experience will live on." He went on to express excitement about his participation in the project, "This presents an exceptional opportunity for scientific exploration and

collaboration. We look forward to contributing to the collective understanding of this extraordinary astronomical event, while demonstrating to students and the local community that anyone can engage in science."

Paterson P-TECH Principal Charla Holder said, "We are thrilled about Dr. Miranda's involvement in the NASA Solar Eclipse initiative and eagerly anticipate him sharing this experience with the students of Paterson P-TECH and our community. Partnering with NASA for the solar eclipse initiative enables us to reach a wider audience and inspire the next generation of scientists, engineers, and space enthusiasts."

Superintendent Laurie W. Newell said, "Dr. Miranda is a great example of how the faculty of our schools are always looking for better ways to engage our students. I can't express how grateful I and the District are for his continuing contributions to the Planetarium program at Paterson P-TECH. From the portable planetarium, to the NASA models he has acquired, and now the new equipment that students will be able to utilize, he very much keeps the needs of Paterson's science learners at heart."

Photo 01: Photo of the total eclipse using a polarizing filter. The research was using polarized light to study solar dynamics in the middle and lower corona.

Photo 02: Dr. Carlos Miranda at the Citizen CATE Site 30 telescope set up at the Adirondack Sky Center and Observatory in Tupper Lake, N.Y. on April 8, 2024.

Photo 03: On Monday, March 25, 2024, Paterson P-TECH students were able to interact with the instrumentation, perform some solar viewing, and received a brief overview of the research that will be conducted during the observation of the solar eclipse on April 8, 2024.